French talk

automailon systems. St-Gobaln has nn indirect

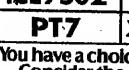
Thomson and CGE.

Calculator inquiry

to complete questionnaires.

TWO more models in the Univeo tange have been ennounced in the US. Packaged to compete with the chared memory version of the IAM 4341, the models are dual processor versions wit 2K-word rether than the standard 8K-word cache. Thoy are expected in the UK elective

AFTER seven months in capfounder of SE Laboratories.



alternative.

Ferrauli Computer Systems Limited.

NEWS IN BRIEF

to Clivetti

FOLLOWING its talks with Hituchi (CW, February 28), French Industrial conglomerate St-Gobain-Pont-A-Mousson has been holding talks with Hituchi's new European pariner, Olivetti. The discussions are belleved to have bean on office

stake of just over 10% in Cli-Hancywell Bull, and has ambiflons to become the third power helind the French computer industry. The other Iwn arc the clecirical and electronics giants

AN inquiry into the use of calculators by students and the role of electronics generally in education is being undertaken by Texas Instruments. Heads of mathematics at 8,400 secondary and middle schools will be asked

Univac additions

Annabel freed

tivity Annabel Schild, who wes kidnapped with her father and muther by Sardinlan bandits last August (CW, March 20), has been released unharmed. Her father, Rotf Schild, is the co-



MPs to get in-depth computer briefings

AN inquiry and research aervice for MPs and in depth briefings on computer Issues are new activities planned by the Parliamentary BCS is kaen to have an eatablished means of Computer Forum, following its formal este-blishment with a constitution and election of officers. How the inquiry service would work in not yet determined, but it would probably be run in co-operation with the

The BCS has formally joined the Forum, and has appninted Alan Sutcliffe es its representative on the Forum Committee. Philip Virgo of the Wellcome Foundation has been elected chairmen of the Forum, and Brian Murphy, head of Parliamentary affairs at ICL ia its secretary. The aim of the

force for marketing direct to for word processing, and depen

attsched.

add to the OEM soles that are

aiready going on on the Con-

The hardware initially is baing

Imported from the US, but under

the terms of the egreanical with

tha NEB (CW, August 23, 1979)

manufacturing bers is expected

to start on a small scale by the

A lechnicsi centre in

Southampton with 35 sinff is

aiready in operation and u Cobol

compiler for the Microlite has

been produced there. This has

been approved by the US

The Microlite consists of a

single unit incorporating key-

board, 12-line plasme display,

dot matrix printer, end twin

minifloppy disc drives. The pro-

cessor is e Zllog Z-80 with 64K of

RAM. A separata Diablo delsy-wheel printer can be attached

end of this year.

access to Parliament and Whitehall and e way of taking the initietive over mattera it feels are important.

A team of apeakars hes been lined up for the Forum's next briefing at the Houses of Parliament, on microa and jobs, to be held on May 12. Jonethan Sleigh, who produced the Department of Employment atudy, Profeasor Tom Stonler of Bredford University, Bob Parslow of Brunel University, and Conway Berners-Lee of ICL's corporate communica tions, will all be giving their views.

The next plenned briefing is to be on

public procurement, with industry

ferentiel procurement fence.

The proposed Inquiry service could be baacd on the BCS' exiating activities, whereby questions would be sent from e central point to specialists, probably volunteers, who could give answers. Some questions could get different answers from different people, and the service would have to comment on why there were differences

To deel with issues at e greater depth then possible in its full sessions, the Forum ia elso considering holding mini-briefings for MPs and their advisers, involving only ebout 10 peopla. Education will probably be the aubect of the first of these.

Desk-top launch from NEB's **US** venture THE joint venture between the National Enterprise Board and Qi of New York has now opened for business in the UK, under the name Q1 Europe, with

NCC seeks members' views on privacy

to 400 megabytes serving a meximum of 64 Microllics. Cheaper work stations without their own printers can elso be organisations to get their viaws on privincy — how important the

hear from others who are not

membera. Soma of sort of In-

ternational agreement on-privecy laws under the eegis of

the EEC is needed to evoid con-

trola thet are too restrictive.

eccording to the centre's new

Felrbairn expresaes reservo-

tions about the Undop proposeis

on dats protection and seys they

wouldn't otherwise get. And the

trouble with todey'e microcom-

puters la that once the user has

stert eli over egein with aoft-

ware development. Our system

will allow him to go right to the

top of our range, to DEC's Vax machine." The aystem is ex-

pected to be ieunched this year.

Systima'a current smallest

ayatem is the Series 700, hased on n DEC PDP-11/04 and cos-

ting £10,000 for 64K of memory.

a 10-mogabyte dlac drive, a dis-

play and a printer (CW, November 1, 1979).

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Availabla immediataly

IBM 0029 Card Punch

£950

Please call Steve Mason on 01-583

9481 for further details:

outgrown his system he has to

director, David Feirbairn.

From the beginning the Microlite and Its predecessor, the Lite, have been designed to run high-level lenguegca. PL/1 hns been used up to now, and Ql'a own way of running this, half compiled, half interpreted, government purchasing egency and la to be sold there as well as memory in the machine.

ding on the printers and soft-

ware required the system will

Links can be provided to a

cost between £7,000 and £10,000

central rigid disc store giving up

memory in the machine.

Of the NEB's commitment of £5 million, £2 million has so far been takan up. Ql has grown et a lesiurely pace since its foun-ding in 1972. So far about 1,500 mechines have been sold worldwide, including the Far East. The biggest bulk sale so fer hes been to NASA in the US, which usea the machines to produce specifications for buildings, mong other things.

makes ita own cabinets and

loppy disc drives end 4.9-

outlets for the new system.

ander, EC4 el. 01-583 9481. Telex 258344

"This syatem won't moke us a

scs will be possible

THE Netional Computing Centrc la cenvassing its member

Issue is to them and whether there is a need for government Particular concern has been raised over the danger of restrictions being imposed by foreign governments on date flows to the UK in the absence of any privacy legislation here. The NCC is also interested to

It might be more aensible. Fairbairn suggests, for the law tion ebout individuals is to suppress information plecameal.

adding that its move was a pro-motional offer running for a strictly limited period.

DECwriter IV

Newbury

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. The list is growing all the time.

Newbury, Tally, Diablo, Sarvogor, Hazaltina, Parico

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VDUs_

the frunch of its desk-top computer called the Microlite. A sales The Q1 Microlite desk-top computa

need to be looked at again, if only because it la two years since they were drewn up.

to state clearly what informasccepted as being in the public domain, rather than for it to try

schools, Microsense had launched e promotional discount sales campaign which will allow schools to buy one Apole computer, with a range of peripherals and add-ons, at 25%

But to obtain this discount, the schools must buy direct from

COMMA COMPUTERS

CHALLENGE

Call for a quote before you buy any,

T1602

LSI-11_PDP11/03,

V/03, T/03

YES ANY, computer hardware!

FRANK Cary, ratiring chief executiva of IBM, is to be succreded by John Opel, president Microscase, rather than through of the company, on January 1, a dealer. Dealers wishing to 1981. Cary will continue es support the scheme will get a 55 credit on the invoiced amount The dealers, in this country

are, necording to associated spokesman Alan Wood lucensed what he called the igh-handed approach 6 Microsense. The association's found pot

We spoinglise to readers and advertisers for the absence of many of our regular features and for the reduced news coverage in this issue of Computer. Wester: The resus was located. est letter stresses that the dealers will not support schools Weekly: The caues was indust-rial action at our printer. What a way to calsbrate our buying direct from Microsense A Microsense spokesman sala he did not believe the protes hnd the backing of the dealer-

\$1m China order

ICL7502

You have a choice.

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for all the details contact: PT7 Sales Fenanti Computer System is Limited, telephone: 061-437 5391

FERRANTI

Briefing

Strike threat

at PO centres

POST Office telephone billing stiff members of the Society of Civil and Public Servents may

lake strike action at computer

centres after Easter as e result of

my uses of between 21% to 26% awarded to supervisory

members of another union, the

Society of Post Office

Executives.
The SCPS seys that despite

attempts to closa the pay dif-ferentials between its mambers

and those of the SPOE tha letest

swards have only increased the

gap, it is expected that a formal

pay demand will now be made by the SCPS.

Sorry!

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Schools'

is caned

THE Appla Computer Dealers Association this week formally

protested to Microsense, Apple

UK mester diatributor, about its

latest marketing move in the

To coincide with the ED million

provided by the government for

increesing the nwareness and

use of microcomputera i

educetinn fleid.

Plesseu

Systems

Peripheral

A \$1 MILLION multi-minlcomputer system has been ship-ped to China by Automated Systems of Hong Kong, Installed in Peking the ayatem consists of a network including two DEC PDP-11/70 minis, front-ended by two PDP-11/34a. Automated Systems saya it has won orders for about 20 computerain China, all but one of them DEC minis.

Case talks off

THE Case DCX Data Concentrating Exchange is to be built order ilcence in the US by Rixon inc of New York, the company which supplies tha British muluplexer manufecturer with lowspeed modems. Paradyne, which suppliea Case'a high-speed modems, has felled to agree a new share exchange ratio for ita proposed acquisition of Ceaa (CW, March 20), end talks have

Aregon loss

AREGON, the NEB's viewdata system marksting subsidiery, lumed over £1.8 million in its first ten months of operation to the end of 1979, but made a loss of £1.1 million because It writes olf product development as It

Cheaper printer

ADAISY-WHEEL printer which can use either plastic or metal wheels intarchangeebly has been introduced by Diablo. Cailed the modal 630, it will cost substantisly less then current machines. The US OEM price for quantities of 500, for example, is \$1,705 as opposed to \$2,500 for the Model 1650. spective employers could con-

petition. Tha cheque was Peterborough Date Proceaded to Geoff Buaby, educa-officer of the British Com-section, Comshare the services

INSIDE...

Computerview on sterling ICL loses agein Page Six for programmers Trenspac Mark II Migro News Software File

CROSSWORD: 22 JOBS: 11-23

'Entente cordiale' over viewdata... AT the lest minute, before the opening of status, such as Viewdata 80 and last Sep- exhibition stand end from a tepe recorder in

French PTT and the Post Office reached Peris (CW, March 27). agreement on e reciprocel errangement

that have proved a godsend over

the lest few years for local

authoritles short of cepital for

purchesing mechines will acon

be e thing of the pest. Last

capitel ellowences currently

Number 700

Viewdeta 80 in Wembley last week, the tember's Informatics in Society seminar in

Thursday, April 3, 1980

The French delegation learned that they whereby facilities would be freely given for my demonstrution of their raspective ment to the telephone network to link to fore they were due to demonstrate their viewdato systems in each other's country. their Teletel datebase in Perls just three system from a pre-recorded tape, the cass subject only to the normal technical and doys before the exhibition was due to open. cite recorder they were using disappeared monstretions to exhibitions of international continued to operate from the mini on the live. Viewdate 80 report: page 8.

Budget week turmoil

the conference hall.

Price 20p

A rather different hitch nearly prevented the Canadians from damonstrating thair Tclidon viewdnta system. A few houra be-

sefety checks. The Post Office wes also So they took their Sems minicomputer out with the tape still in it. A hesty conversion granted permission to merket Prestel In- of service and flew It over to London. When job by the Cenadian engineers enebled them ternational in France. The French had the egreement was concluded and telephone to hook up to e telephone line, link to the wanted an egrecment which limited de- lines were laid on, rather than use them they database in Canada and conduct the show Leasing industry in

repayments on unsecured

debts. An Itel spokeswoman I

San Franciaco told Computer

Weekly that the Itel would not

he able to make any repayments

over the next month unless a

agreed with the banks.

new financing package was

lack of an agreement was hot-

ding up completion of the deal with Lloyd's underwritars under which Lloyd's will take over responsibility for Itel's lease

baae in return for a payment

from Itel (CW, Januery 24). She

refused to comment on suggea-

tiona that Itel might aue Lloyd's

She also confirmed that the

operating leasing business, leasing industry is witnessing Parry Mitchell, chairman of debt-ridden itel in the throes of

ease charges to local authorities

The move could affect aome-

would have to go up by about

thing like £20 million worth of

computer kit leased each year

but it is unlikely to cause any

overall drop in the level of

would be launched at the end of this year. He seid that it would be eimed at offices within stronger in the manufacturing sector than in commerce. The United Leasing, estimated that another major crials as it tries to thresh out s new agreement with Its Icnding banks that will Dr Boyd pointed out that the eneble it to carry on making

system would cost between \$15,000 and \$100,000 end would ncorporate multiple Zllog Z80

logy employed in existing Harris products such as facsimile ransmission kit and the digital private branch exchange switchboards built by Farinon Corp of San Matco, California, the firm acquired by Harris ear-lier this yeer (CW, Merch 6). The Herris effort in the office systems buainesa should also be helped by its expertise in the newspaper text editing area, where it is a big supplier of composition systema, end in stellite communicationa.

if Itel goes benkrupt. Itel's total debt is around \$1,200 million of which only ebout \$400 million is accured by assets, notably Itel'a leese port-Turn to back page

leasing business. The big banks provide finance for leasing muinly to defer tax on their profits and the huge profits that they look like chalking up thr the rest of this year will at least meke them even more keep to provide lease finance. 'Sinister' delays in **Bundespost**

to public sector organisationa which do not pay Corporetion Tex should be slashed from 100%

eble to offer leese terms that

menufacturera' rental chargea.

Lessors will then no longer be

to 25% in June.

week's Budget proposed that the compete effectively with

evallebie to leasors on kit leesed One leading figure in the

A COMMUNICATIONS conaultancy which is heving difficulty with the West Garman poat office over obtaining private data lines has ceiled on any other firms which beve encountered aimiiar problema to pool their experiences in order, to put pressure on the Wast Germana. The Bundespost hes been trying to divert internetlonal traffic on to public iines (CW, Dacembar 9, 1979 end Merch 27), end this is thought to contravene internetional egree-

According to Berry MacAdam Systems, he has been encountering "daleying tectics" from the Bundespoat which he feela heve "somathing quite ainlater" behind them. To increase revanua from the public network the Bundeapost is cutting off private lines where there is a parallel public service, but, saya MacAdam, there is wide scope for Interpretation as to whether the alternative can actuelly do what the customer wenta.

Since the Bundespost has bean negotiating with customars separately rather than making a public pronounce-ment on the matter. MacAdam thinks those affected should disouss thair experiences together to see if a common epproach can be worked out He can be contacted at Telecom Systems on 01-261 4171.

Harris goes into office systems HARRIS, best known in the

computer business aa a supplier of terminels for IBM users ead powerful minicomputers for scientific and technical applicetions, is moving into the offica systema merket.

Harris' chairmen and chief executive, Dr Joseph Bnyd told Computer Weekly that a system besed on multi-nicroprocessors menufacturing compenies, mainly because Harris was software would be railored to suit the administrative procedures employed by manufac-

It would make use of techno-

In its fiscel year ended June 30, 1979, Harris derived \$182 million of its \$982 million turn over from what it calls information ays-

7

Ads aid the

ALMOST £1,000 has been contributed to promoting the akills of the disabled in the computar industry by the Computer Advertisament of the Year comtion officer of the British Computer Sociaty's specialist group for the disabled, by Roger Frampton, chairman of Com-putermarket organiaer Couchmeed, at the exhibition last

Accepting the cheque Buaby sald, "The money will be used to promote the fact thet disabled people can make e aignificant contribution to the computer Industry. It is interesting to see that the largest number of advertisements entered are from

that with this mooey and your help in the futura wa can fill many of these vacancies."
Susby said 10 disabled people would soon be finishing a 12-week TOPS course on Cobol and commarcial applications at Quaan Blizabeth's College a college for the disabled Pro-

recruitment companias. I hope

tact these students through tha

The winning advartisament wes from Digitoi Equipment. aection and DP Recruitment the recrultment section with an edvertiaement for staff for Lagal

In the pictura Geoff Buaby eccepts the cheque from Roger Frampton. On the left is John Godley, meneging director of

The world's most widely installed data base management system is used on DEC PDP/11 and VAX: HONEYWELL Level 6: PRIME: PERKIN ELMER: IBM System 34: GEC 4000 and ICL 2903/4/5 minicomputers.

Fordetails 'phone Jackie Duncan (0628) 29456



Cincom Systems







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COMPUTERVIEW

strong feelings about the effect of the Budget on their business either way. Best news is probably that the fiscal climate is considerably more clement for small ousinesses than it has been for some years; unfortunately the economic climate is considerably less so. When money costs over 20% to borrow and earns a net 10% plus when left in a building society, the Incentive to get up and do something new instead of sitting back and vegetating is still largely absent.

It is good news for higher earners that company profils up to £70,000 now attract a Corporation Tax rate think about British Airways, it is one of the more of only 40% whereas personal earned incomes attract a top rate of 60% above £27,750. Clearly the higher earning self-employed should turn themselves into companies if they have not done so already.

Little on the economic front has uttracted so much adverse comment as the high level of sterling against most other currencles. Having wept buckets of blood when the pound nosedived townrds \$1.50, the same commentators are now agonIsing over the fact that it is trading around \$2.20.

All one ever seems to henr is how bad this is for exports, how now that we have a petrocurrency the heart will be ripped out of our manufacturing industry, which is so feeble and inadequate that it can only trade overseas on the basis of fire sale prices.

Although manufacturing is an extremely important buy from abroad must const much less in sterling term when the pound is trading at \$3,20 rather than \$1.60. economy. British financial and other services are second

Let's hear it for the pound

to none on the world market and, whatever one may successful as well as one of the biggest world airlines and additionally earns substantial amounts from pro-

viding computer reservation services to smaller airlines. It is simply not true either that British companies as a whole cannot trade auccessfully overseas. ICL, Racal and GEC all do extremely well in world markets, as do cnmpanles like ICI, and, increasingly, retailers like Marks and Spencer and Mothercare, the former selling almost exclusively British-made goods.

Although we now have aubstantial reserves of energy n the UK, we have few raw materials, and most of these have to be imported. There is of course a time-ing before lower sterling costs of importing row materials come through in lower overoll costs for the end product, but it must happen in time. The peripherals that ICL has to buy from abroad must cost much less in sterling terms

The cost of winning overseas soles must tend to

(Wassermann.

decline when the pound is strong. If £100 buys more nights in a Japanese hotel room than it did a year ago, the effect of the strong pound on exports cannot be

When the pound is weak, manufacturers do not in general cut their export prices to win more business; delivery dates and reliability are the key to the Germao and Japanese successea, not low prices derived from a

On the people front, it may not be very rigorous for individuals to convert their salaries in raw dollar terms in order to assess where they stand in relation to their foreign counterparts, but most people do it. A salary of E10,000 a year does not look too bad in US terms when It translates as \$22,000 a year; the same man really feels like a poor relation and thinks seriously about joining the brain drain when the same salary converts to

There is no point anyway in making goods which are only saleable because they are so much cheaper than those made abroad; it is a gunrantee of economic

The most disconcerting feature of the World In Action report on the Wynne Godley-Francis Cripps view of the deaolation and disaster ahead of us was not their grint forecrists but the enormous pleasure both men seemed to toke in making them.

Forget Godley and Cripps: the appreciating pound brings benefits as well as disadvantages, and we should be seeking to exploit them instead of moaning.

LETTERS to the EDITOR

How far do we want to emulate biological DP?

lann Barron's prediction that Integrated circuits will soon reuch the limit of their commercial growth potential (CW, January 17). As he pointed out, further growth of complexity will eventually lead to unneceptable price rises as inunufacturing techniques become stretched to their limits. Morcover, even if these problems were solved there would from increasing apecialisation.

suggests there is a real need to of serial processing and develop languages "geared to simultaneous processing." He is probably right. The trouble la that ambitious simultaneous systems can easily run into new sets of problema: cross-feedback to

Information from users wanted

i AM undertaking a survey of the experiences of businesses using microcomputers. The survey is being conducted compictely independently of any possible interested parties and alms to establiah objectively the degree of satisfaction ex-

I appeal through your letters page to any company which has purchased or has access to a microcomputer. I would be School and I will send them a brief quiestionnaire. All correspundence will be hundled in ah-

CHARLES COUSINS Project MC-05, ondon Businass Schoal, Sussex Place, Regent's Park, Londan, NWI 45A.

creasing complexity. unquestionably very complex copy would not generally be be the other difficulties arising but usually works. This does at atrong enough. least tell us that the problem of But, more importantly:

"design" is revised anew during Inappropriate. each generation, thus keeping

ment has shed considerable light right storage capacity. on the basic "software" featuraa computera could develop.

The following account seems possible mechanisms, they will often co-exiat as alternativea. perienced by businesses using The most basic units of memory Cybarnatics Depart are atrings of coding (not just Brunel University.

synchroniantion and related as formerly supposed). provisions to embody the Physically, these strings are muthemnticol-set structure of elther linear macromolecules, or the information stored, possibly nrrays of macromolecules on in some constantly variable way. surfaces By all means let us tackic pro- Newcastle-on-Tyne) - or both, blems of simultoneous proces- on different occasions. sing, but that will not necessar-

Generally any successful ily solve the problem of in- coding will exist as many separate copies with cross-Biological "data processing" is feedback co-ordination. A single

Is there any hope of overcoming such an Impasse? Barron principle — and solved recorded or "stored" as in orcomplexity con be solved in Knowledge is never "tapemoreover, by systems which dinnry computers, but instend get beyond voit Neumann's idea start by being quite simple. This starts as a mass of is clearly a very neat and spontaneously-produced arbieconomical way of producing trary encodings - moat of "complex componenta" whose which will then be discarded as

lt might, or might not, be up with changing conditions in commercially feasible to use the environment. Such adapauch techniquea in our tability and aelf- software-or-hardware dealgn.
programmability is quite The natural brain would have an impressive, so is there any hope astronomical number of macrothat any computer revolution molecular elements, so there is could get anywhere near to It? no guarantee that any computer Recent work in this depart- would have anything like the

Moreover, there is a price to of such systema, and it may be of be paid for this sort of system, some interest briefly to outline even in nature. It will invariably the main points. These might have some measure of human have some measure of human offer some guidance on how falling, so we will lose our customary algorithmic precision, it is therefore important to conto fit all the interdisciplinary sider what wa really want from facta. Where there are several our systems, and whether the side-effects are acceptable

Cybamatics Department,

1984 and all that...

grateful if any such usars who would like to help would write to me at the London Business

THIS week's example of the strange things people any in the media about computers was sent in by E. B. Jerrom of Didcot, who wins £5.

This present outburst of gadgats and gimmicks — TV sames, calculators. ha present outburst of gadgats and gimmicks — TV games, calculators and watches — is only the baginning. The new generation of computers can actually be batter than their programmers.

New Society

GOVERNMENT COMPUTER REQUIREMENTS MINISTRY OF DEFENCE

METEOROLOGICAL OFFICE

8RACKNELL

At least 5 Intelligent Culour Graphic VOL terminals to provide both aight-numeric and line drawn pictorial displays on a 19" screen era required for use with OEC POP 11/80 based information display systems boing instelled at calected Forecast Offices.

systems being installed of colocied refease Utilices.

Applications for copies of the Summery of Operational Requirements should be acent to the CENTRAL COMPUTER AND TELECOMMUNICATIONS AGENCY (Con EA/1), Glidengate House, Upper Oran Lene, NORWIGH NRS 10W, quolling Reference No. CP18/42/CW. Completed proposals must be received not later than 8 May 1880.

USSR scientists

FOLLOWING Donald Michie's suggestion (Privateview, March 6) I have sent Amnesty International a contribution for its work

Communications of the ACM.

practical or financial support for investigating the cases of these working for their release.

Oslo, Norway.



avallable

Low price

Wilkes Computing Bush House, 72 Prince Street, Bristol BS1 4H0 Tel: (0272) 25921 Telex: 449205

Support for two

general, but with particular thought from my part for Analely chransky. I have also appealed to the Soviet ambassador.

I am equally concerned with the fote of Professor Haim Kilov (Karl Marx Street 75-13, 2260tl Riga, Latvia, a fellow computer scientist with whom I have had professional contact. His case (20 exit visa, lost job) was publiclised in the January issue of the I would be particularly interested in giving any further

two people, and would be willing to join an Amnesty group



Ferranti share in Brazil consultancy

HAVING helped set up Cobre, the Srazillan company which menufac-turers Ferranti Argus minis under licence, Ferranti has formed a new Brazillan joint venture company Sistemes Ferranti do Sreali Limitada, in which it has just leas then 50 %. The new systeme company will train and employ Stazillans to provide programming, design consultency,

nd employ electronic to provide a pr Customers will primatify be the orazinen emied forces, circady major users of Ferranti's £1800 sectes of military minicomputers. Ferranti's pather in the venture is a Stazilian company, Mayrink Veiga & Cis. Ferranti has a very small stake in Cobra.

Univac users fear neglect of VS/9

IS users of the Univac VS/9 News reports that the user product development programme. The furore is of somewhat academic interest to out half a dozen and most of them have already mapped out

their growth strategy. The US row broke out at a users' meeting in Orlando. Florida, where some 85 VS/9

users were represented.

VS/9 was developed from the operating system on the RCA Spectra 70, the copy of the IBM 360 which spawned ICL's System 4 in the UK and Slemens' 1.000 series in West Germany. Univac took over the Spectra base when RCA pulled out of the computer business in 1971.

It is a virtual operating system which Univac claims offers comparable functionality with

it runs on three machines, the ageing 90/60 and 90/70 and the much newer 90/80, which is approximately equivalent to Jim Fullam, vice-president of A METHOD devised by com-

Univac's worldwide communications, assured users that they "would not be abandoned". A new release, 6.0, of VS/9 is et for general release next year and will allow two CPUs to share disc files. It will also support eight megabytes of main memory, compared with four

Users were told of a later release planned for the operating system, but a problem many of them say they face, that they are running out of power on the 90/80, was apparently not addressed. The principal fear of the users is that Univac will try o shepherd them into the 1100 eries, which they say would not

Peripherals exhibition

professionals who are involved in the selection and acquisition of peripheral aquipment to discuss their requirements at o specialist exhibition will be prosided by Peripherals 80 on April 16 and 17. It is being held at the badon, SWA Exhibit Road, don, SW6. Entry is free. The show, which is double the site of last year'a event, will feature computer peripharals

and terminals from more than 40 Companies.
The exhibition is now in its hind year and is organised by PC Exhibitions on behalf of the Peripheral Supplieral Association, it is aponaored by the Monthly computer magazine Systems international.



operating system are up in arms group conducted a poll which because they fear that It Is showed that 58% of users did not taking a back seat in Univac's want to go to 1100, while 33% would regard IBM as a viable alternative, with only 20% saying IBM definitely would not

Primarlly because English Electric built versions of the RCA machines in the UK, Univac only has one 80/80 user. Iranian Oil Services, which Is not short of capacity.

According to managing director Bill Read, the other five or so VS/9 users will have moved elther to 1100 or "downwards" to the forthcoming replacement for the low-end 90-series. Codenamed System 80, it will run ar enhanced version of the OS/3 operating system launched with the 80/30 and will also become a bridge into the 1100 seriea.

£1m bank

puter security consultant Leslie Goldberg to steal £1 million by "tapping" bank telecommunica-tions lines has apparently been received quite calmly by the Central London Clearing Bnnks.

When questinned as to the viobility of Goldherg's frnud idea, which would only work when a new security code system called the Stondord Test Key was introduced a spokesmnn for the CLCB said that they had known about the deficiencies of the STK since 1978. "Other security methods will be used in addition to the STK," he

Goldberg haa shown that the STK algorithm which could The US paper Electronics and check code numbers for the date, currency and amount of moncy baing tronsmitted bet ween banks can be "fooled" and large amounts of monay could be siphonad off into a special "fraud" account.

"Tha Standard Test Key will provide losa security than the N opportunity for computer present patchwork of different coding systems do," aald Gold-



ICL loses another local authority order to IBM

THE latest local authority to Council for a Level 62/40 as a switch from ICL equipment to that of a US company la Birmingham City Council, which has announced that it is to Install an IBM 3033-N8. It is the first order for this "cutdown" version of the IBM 3033 — which has 75% less cache memory than standard and uses 3032 channels — revealed in the

ICL has, however, mannged to win a £1 million order for the supply of an ICL 2956/10 from the City of London Corporation. In the recent past (CW,

January 31) US companies like IBM, Honeywell and Prime have manoged to tempt aubstantial local authority business away from ICL. Leeds City Council and Manchester City Council switched to Honeywell machines, while the Greater Manchester Council decided gainst a last-minute offer from CL and ordered an IBM replacement for Ita ageing IBM 360/50, Honeywell won an order from East Lindaey District

replacament for on ICL 2903. The Birmingham order for the

IBM machine, valued at about £2 million, is thought to have been made mainly because teleprocessing facilities on the cur-rent ICL 1906A are becoming overloaded. Future plans are to increase

the number of online terminals from 170 to about 400. Work in thia area la expected to begin in 1981, when the new system will be delivered. A terminal network and cen-

tral database, to be called Citybond, is to be created by the City of London Corporation with the £I million worth of ICL computer equipment it has ordered. The ICL 2950/10 will be installed by the end of this month along with five ICL 7502 terminal processors and 32 VDUs.

It will replace an ICL 1902S sya-

tem currently in use. The aystem will use ICL's VME/B operating system and run the IDMS data management package.



Win some, loss soms . . . ICL's chairmen, Philip Chappell (right), eigns the 2866 order contract from the City of London Corporation with Common Councilman Patrick Ronsy, chairman of the corporation's Coal, Corn and Rate Finance Committee. Sut ICL is IIsing another big local government cuetomer, Similngham, to 18M.

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for programmers and analysts

by Judith Morris

Call for a training policy to fill jobs

experienced by those looking for a job in the computer business, be they TOPS students, graduates or ulready qualified people.

However recruitment can cause extensive problems for employors too.
A recruitment ad can coat

anything between £60 and £2,000. and the expenditure does not stop there. Interviews, PER or Job Centre fees, staff salarlea and many other incidentals are involved in the process.

Unfortunately, this system has become not an extravagance but a neceasity, as more empinyers compete for a hondful of suitable staff.

Fnr this reason, 14 West felt was aadly lacking. Midlands firms decided to cooperate in the fight to reduce staff shortages.

Kalamazoo Business Systems nf Birmingham set up talks with British Leyland, Lucas and the National Computing Centre and others in an attempt to find wnys of solving the staff pro-

training couraes were discussed. Mervyn Farrant of K3 Software and that the present apate of Services suggested that unl- TOPS and other courses will veraltles and polytachnica should be oncouraged to attract the "beat brains" into atudying data processing in order to inject into the industry the intelligence It needed to copa with the required Imaginative and sophisti-cated software solutions.

eventually alleviate the pro-

talka, this is not the case and the

people preaently being trained

are not really sulted to the naeds

Do you have any alternative

ideas and auggastiona to combat

the current ataff shortage and

the nightmarea of recruitment?

ONLY one three-figure number equals the sum of the fectoriols of its own digits (ABC = Ai+9i+Ci). Can you find it

before turning to page 22 for the solution?

Herking beck to the pentagor

dissection problem (Puzzier, Februery 21), Oomsid 9oil, of Teddington, Middlesex, offers on eltemative method bosed on

bleecting one of the sides, ot Q, and then estting line JQF at the

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of industry.

Yuzzier

It was decided that industry, commerce and training establighments get together to conaolidate a policy of providing the required number of entrants to aystams and programming and to ensure that the training given was related to the needs of the industry - something they all

Doug Brown, executive data processing manager at Kalamazoo, sald he believed this type of contact between establishmenta would be easier at a local level: "I would like to see local firms contributing towards a joint training scheme."

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120 ope keyboard terminal. Optimised bi directional printing. Selectable characte widths. EIA interface line rates from 50 to

romonly £516

It has long been believed that

Standard of DP applicants 'going up

Jemeo Ross Associates, which runs a pro-

OESPITE complaints obout staff training and several state of the standard of applicant into more than pleased with the standard of applicant into the standard of the standard and more discountable than a training that the standard and more discountable than a standar "updated end mora rigorous" then pravious tastin

government-sponsored induction troining course, has reported a nodeseblo increase in the stondord of applicant. Robert Moscrop, education director of the person is then trained insequetaly.

Plenty for the programmer as ICL According to the Kalamazoo launches its 2903 replacement

innovative VS computer and, to

a leaser extent, by tha IBM \$100.

A program development sya-

ICL's ME29, announced last weak as the replacement for the successful 2903 seriaa, has plenty in it of interest to programmers.

Tha machine follows the trend set by Wang with ita highly

emo engie es DE. Triengio BOE

is triongle ABC trensforred to the right.

tem called Dlalog allows a programmer to interface directly to the Cobol or other complier from a workstation. Programa can be submitted to the compller and the reaulta displayed on the screen.

> The programmer can then use utilities such as the acreen editor and text editor to amend the source code. Communication la via forms which are put up on

A typical 2903 user would normally submit batch amendment cards, which are more ikely to lead to error

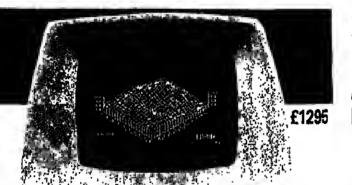
Theoretically it would be poasible to write all one's programa at the terminal, doing away with

coding aheeta altogelher; but ICL doea not expect many users to go that far.

Programmers are usually not the beat typists in the world!" comments ICL's Gordon Der ham. "Usually we would expect the initial source code to be written on coding sheets and keyed in directly by data eatry operators "

In addition, when batch sys tems are being developed atandard forms can be writer into the job control programs, so that the user, such as a clerk in the payroll department, can fill

Another feature offered on the ME29 en ablea people developing teleprocessing aystems to the them with a TP exerciser which almulates the target network.



the state of the s

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CTL and CII-HB take on US array processors

Second generation

Transpac by 1982

WHILE the UK still struggles to get ils first generation X25 packet-switched network into

service, the French government department in charge of telecommunications is opening

consultations about a second

generation of the national

Transpac network, to begin

The basis for the plan is that

the present network is based on

1975 technology; usera and de-

aigners are now familiar with

the technology and want to add

new facilities; and above all, it

has failed to win any foreign

sales, a fallure attributed to its

The second generation Trans-

pac is to consist of small

microprocessor-based switches

offering a wider range of ser-

vices than the present system to

between 20 and 100 subscribers.

ied for their interest or other-

wise in the project, and five or

six companies are likely to go

into more detailed discussions

thia month with one being

selected as prime contractor at

The French paper Electroni-

ques Actualités reports that

some of those consulted ex-

pressed surprise at the detailed

specification in the preliminary

discussion documents, which

16-blt 68000.

about the turn of the year.

Manufacturers are being pol-

over-large scale.

service at the end of 1982.

RACK-END array and arithmetic processors worth between \$15 and \$20 million from Floating Point Systems Inc, of Beaver-

Sweden to

develop

research

swap link

SOFTWARE to enable Euro-

pean countries to sat up online

for scientific researchers is to be

developed in Sweden, under a

contract just arranged via the

The work is part of the Cost 11

project (European Co-operation

in Science and Technology) and

the contract, to implement a

portable package usable in any

country, has gone to Swedish

The system will be similar to

the US Electronic Information

Exchange System already run-

ning (CW, April 26 1979) and will

minals to send messages to each

other with a "mallbox" system

and take part in "computerised

conferences." In these, each participani adds remarks to a

continually expanding text that

all the others can read whenever

they choose to log on.

Enea Data is planning to call

its software Euroconi, as it will

be based on an existing package called Com developed at the

Wedish National Defence

tesearch institute. It will be up

to Individual countries to take

the software and actually set up

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bleresearchers with ter-

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formation exchange systems

CTL adopted the FPS processors fol- the back-end is written into Fortran profrom roading are to be offered with their lowing an evaluation on behalf of the grams as a data statement. ton, Oregon, are to be offered with their ton, Oregon, are to be offered with their tespective minicomputer lines by Computer respective minicomputer lines by Computer Technology of the UK and Cli-Honeywell CTL customer. Having linked the FPS array processor to a Modular One via a CAMAC system, by Cli-Honeywell Bull. The OEM contract with CII-HB, for FPS- interface, CTL did an integrated solution for m arithmetic and AP-120B array proces- its 8040 and 8040 minicomputers in which minis, the arithmetic processor will perform sors to be sold with Level 6 minicomputers, is the biggest yet signed by the Oregon is the biggest yet signed by the Oregon slon to CTL's Modus. The back-end processor up to 12 million floating point operations per company, and is expected to lead to business sor runs under the control of this operating second.

It is claimed that with Level 6/40 or 6/50

First ICL connection

computer to the Trenspec ne work has been mode ironically not in Fronce itsel but in Monaco. The connection has been made to allow Redi Monte Cario's Peris office equipped with an ICL 7500 series terminol, to communicate with the Principality's rodio station's ICL 2905 computer at its Monte Carlo headquarters.

ICL's solution to the pro-bleme of linking to Transpac enable both the displays in Paris to communicate over o single switched virtual circuit. It also diowe the user to send treff over Trenspec, over the switched network or over leased lines, without the need to be owers which carrying nedlum is being used.

nearly ready for a six-month trial which is likely to start this

Education is one of the main subjects that the group's viewdata team wants to cover and the language project is its first venture in this area. The teaching processor includes frames containing Instructions and others carrying exercises. The user has a keyboard unit linked to the TV with which words are typed in and compared with the correct answers stored in the system.

Viewtron is based on a Digital Equipment Vax system for which the Knight-Riddar team has prepared its own software. The trial period will be based on 30 terminals which will be moved around among about 200 families.

Unlike the trials in the UK, the Miami tests will not cost the users anything. Even telephone available to subscribers only.

on US viewdata A LANGUAGE teaching pro- calls to access the system will be cessor is one of the novel fea- free. It is thought that this free tures on Viewtron, a viewdata trial will provide the purest test system being developed by a US of the attraction of the informapublishing group, Knight- tion. The system also logs Riddar of Miami. Plans are patterns of usage enabling the value of different types of information to be assessed.

Video terminais use 40 characters on each of 20 lines, as opposed to 24 lines on the UK system, because American television has only 525 lines on the screen compared with 625 in Europe. The normal Ascii character set is used, with the sixcell graphics characters as on Preatel. Transmission to the terminals is also at 1,200 bhos. At present there are 22 infor-

mation providers. Other featurea include a facility to keep track of orders

coming in in response to frames alling for a response.

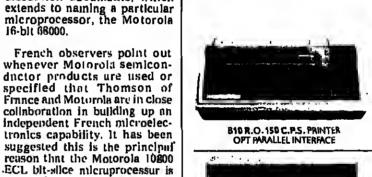
ERA micro study

ERA Technology of Leatherhead, Surrey is to study the persystems, atarting May 1. It will last a year and the report will be

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required in Transpac are that it

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companies for remote diagnos-

tics and maintenance of com-

puters, that it should support

credit card readers, and that It

should support a viewdata

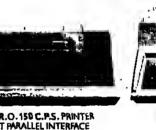
packet assembly-disassembly

mini (CW, March 13).

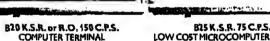
unit, PAD.













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Texas Instruments LIMITED

MICRO NEWS

by Martin Banks

Z8000-based system hived off from Zilog

the development of its Z8000- Work nn the project begon at based 16-bit microcomputer Zllog in November 1978 when it On completion of the developsystem from Zilog to a separate division called Sumnilt.

A reason given for this is that the move is a "structurni change" within the compnny designed to allow Zllog to concentrate on the development of its 8-bit Z80A-based second generation smull business systern, the MCZ-2, soon to be introduced.

Although the transfer involves the movement of nil personnel associated with the Z8000-based project, Zilog stated that this would not jeopardise the development of the

"We have severnI staffs of enincering and software specialists that are not associated with the project," said n spokesninn

Modems

Network

Multiplexers

management

was Itself known as Summit. Now, according to the company. the fate of the project, and the Summit division, will be decided by Exxon on completion of the development. It la possibla tliat the project may be returned to Zilog for administrative and

ment project it msy become a company in ita own right or form part of another. Exxon will give no details as to the type of R&D

it will be doing.
MCZ-2, which was codenamed Aerial st the program stage, uses some of the Summit project architecture as applied

THE first French-designed uniment system has been announced by Eurosoft of Parls. Colled Star, the system was developed in conjunction with France's Centre National d'Etudes Spatiales, CNES, and supported by the French Industry Ministry.
A feature of Star is that it is

designed to run on any msinframe or minicomputer with either Pascal or APL on it.

> first-level verification of the avntax, and comes with a devepment terminal. This consista of three atandard Intel SBC boarda, ona for running the console and interfacing with the host computer, a second, with a local text editor, which controls the interactive stations, up to three of which are supported at present, and a third for controling the local peripherals - e

First French development

system is government backed

tsble generator which enablea

the user to creste his own ver-

aion by description of the cha-

racteristica and Instruction aet

of the chosen microprocessor.

Already sysilable are systems

for the Intel 8080 and 8085, while

the 8086 system la nesrly ready.

On the way ore versions for the

Star Includes a simulator for

Motorola 6800 and RCA 1802.

printer and a PROM writer. All the software is re-entrant, so that different terminals can

grsın design snd editing, com-pilation, remote loading and real-time emuistion fo the target mans gement module, assembler, compiler and a link editor. It la particularised to the chosen microprocessor by means of a

Star is st present running on a Control Dsta msinframe. In the French market it will compete with four other universal development aystems: Hewlett-Psckard's 6400, Tektronis' 8001/2, Philips' UDMS and Gen-Rsd'a AMDS. Selling points over these are claimed to be flexibility In that It can be run on an existing system, and can be lat. ored to a new micro by the user

Development costs totalled three million francs, about £330,000, of which FF 1,3 million came from Eurosoft, FF 1.2 mllion from the space development agency, and FF 600,000 from the Industry Miniatry.

The one-time licence costs between FF 80,000 and FF 180,000 depending on how many modules are taken. The hardware costs from FF 80,000 to FF 250,000, and is also svallable on

ACT extends into Apple software

ardata communications system in notice at Ceneral DataComm

General DataComm. manufacturers of a complete range of data communications equipment, are now established in the United Kingdom. See their products on Stand 2B16 at Communications 80.

General DataComm (UK) Limited

nitley Road, Wokingham, Burkshire 1.

with the opening of o new software house esiled loping its own business package for the Apple.

ware and Program International. Available on nomial turnaround of 48 hours.

MIDLANDS services group Applied Computer aeparate disca, program prices range from Techniques is expanding from Pet software into the software market for the Apple II microsystems visible calculotion program. ACT is also devenience.

ACT Applcwnre will be supplying soft ware to all The company has obtained 70 of the top salling Apple desiers in the UK with the co-operation of Apple programs in the US from seven major US apple software houses including Personal Soft- he supplying direct to users via moll order with a

Small business system implemented on site

FULLY Integrated Business 64K, expandable to 256K, of System is the name given to RAM, dust floppy discs of 630K. both a new Birmingham-based bytes and an optional le-company selling into the small megabyte hard disc system, with business computer market, and five megabytes fixed and five the product it sells.

The product, a linked suite of be run simultaneously with any some 165 Individual business combination of VOU and programs running on a micro- printer. processor system is defined by John Metcalfe, the company's chairman, as a system offering totally interactive software. totally interactive software: needs, the interlinked program "Every file is completely linked to every other file."

suite is almed at providing the user with full control over

included within the price, accounts and business admin-£16,500 for a complete aystem, la an extensive on-site implementation program that is carried of the programs or files of the program or files of the out by the company in association with management consultants Coopers and Lybrand. Four tries into the ssles ledger can be weeka are spent setting up the system in the customer's environment to ensure that he has goods stock fila, work in proa comprehensive understanding of the system operation.

gress file and on down to reordering materials from sup-

System hardware comprises pilers.

Data Terminals and Com- All the programs in the suit munications' Type 10 8-bit are either directly or indirectly on the Intel 8080. DTC, howaver, will be introducing an allowed into a nominal ledger program. Through this it is possible for the interest of th will be introducing an altern-sible for the system to generales ative module in about eight trial balance at sny time. weeks which is based on the feater 8085.

The Type 10 is the same at term-side of the aystem to generate at sny time. It is balance at sny time. It is bala

The Type 10 is backed up with balance sheet.

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removeable. Four terminals can

operating system Unix, deve-hyed by Sell and popular among flexibility, is lo support Zilog's new cross-software packaga for the 18-bit microprocessor. user with full control over

The package will enable the user to develop code for the Z8000 using PDP-I1 aystema and will be available in April. It in-cludes a compiler for the C programming tangusge, a code optimiser for the C compiler, a Z8000 assembler, a linker and an upload/downlosd program compatible with the Z8000 de-

THE multi-user time sharing larger system for software development, and es meny customers already had access to Digital Equipment users for its PDP-11s, Unix, with its powerful software tools, editora end file handling, seemed tha obvious

The package is said to need about 250K-bytes minimum to run, and costs about £5,000 to uaers who already have access to Z8000 and PDP-11 hardware. Garage buys Easi

THE CARS Easl system released by Commercial Invantory Service for use on the Data General The package was developed to allow Z8000 users access to a Volkswegen/Audl end Mercedes desier Goodliffe Garages.

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ordetails 'phone Jackie Duncan (0620)



SOFTWARE FILE

by Claire Gooding

TPS extensions a threat to VME/K

ME29 series and its continued

In the company's magazine

Telefile, Telecomputing attacks

the announcement of the ME29

as a stopgap move designed to

hide the lack of advances made

in ICL's software. "ICL will

claim a new transaction

EMOE base of the environ-

ment - that is the system which

2903/4/5 systema.

Unix op system to help

with Z8000 development

Plan instruction set.

series launch (CW, March 20) the Oxford firm Telecomputing hnnging back for VME/Kirsther has announced details of a mnthan developing TP systems on jor extension to TPS, the TP existing DME which will ister monitor, which has over 300 ICL have to be converted. The release is paving the way for a full-scale highly developed

Telecomputing's chairman Bernard Panton identified two main problem sreas for ICL users wishing to develop func-denal TP systems: "The worldwide shortage and escainting cost of systems designers and programmers, and general concern on the delays to VME/K." Called TPS3, it is due for

general release in mid-1980 and is designed to daal with these problems. It provides a new TPS format and screen language system, said to eliminate the need to write Cobol spplication routines for inquiry, data capture and aimiliar everyday tasks, machine en vironment (TME) as well as Cobol mecros and an which will in fact be a thin ven-implementation of the eer not able to hide for long the

VALIDATE function. The second problem at which TPS3 is almed is one peculiar to is currently used as the iCL users: the now notoriously 'executive' on small 1900 end elusive VME/K. Teleconiputing claims that the enhanced TPS3
Is pertable and capable of performing efficiently in both DME

"Internally ICL accepts that TME = PAL 2903 (Prolong the Active Life of 2903) and no new

attrocting users who are

highly reliable for that reason.

query language, slong the lines of IBM's Query-by-Example. Moving on from VME/K. Telecomputing identifles Ita failure as the reason behind ICL's announcement of the use of the 24-bit word and the

puting's suggestion that TME showed few advances in aoftware, an ICL spokesman pointed out that the ME29 has novel and extensive networking facilities.

launching the ME20, that TME was based on existing "well proven" software, and was

However, the leaf addressing mode was claimed as a major breakthrough in software tech-nology, which sima to give flexibility in the evolution of fscilitles by separsting code

In response to Telecom-'TME incorporates new, fully integral teleprocessing software, and there will be no need to usa external TP monitors on the

Sales boost from inflation

THE impanding recommende-tian from the Accounting Standards Cammittee on infla-tion eccounting has booated sales of one of the longest run-ing fixed east accounting ning fixed esset sccounting systems, Fascla, marketed by RTZ Computer Services. The statement of standard

accounting practics, SSAP-16 is to be announced at the and of Merch, end RTZ seys that arders worth £65,000 have been received so far this year.

Spanex updated

VERSION 3.2 of Spanex, the error recovery and job networking monitor from Span Software Consultants, has been relesaed. Options include scheduling of jobs by user program cells, password protection for network control commsuds, and the extension of the restart facility to TSO users. The product supports OS/VS1, SVS and MVS operating systems.

Cullinane replaces

the IBM market in South Africa of IDMS and sssociated producta such as Culprit (Software File, February 7) Cullinane is to withdraw its licence from ICL South Africa In favour of a newly-formed company, Computersons, set up last week in Johnnnesburg by a trio of ex-

In a year of increased revenue and geographics expansion, Cullinane has also made significant additions to its product range.

The launch of Integrated Data Dictionary Release 2.0 was part of a strstegy announced at the last users' conference (Software File, December 13, 1979) to remodel and co-ordinate its range of products around the dictio-

Release 2.0 of IDD put the emphasis on security and extended the data dictionary definition language so that the

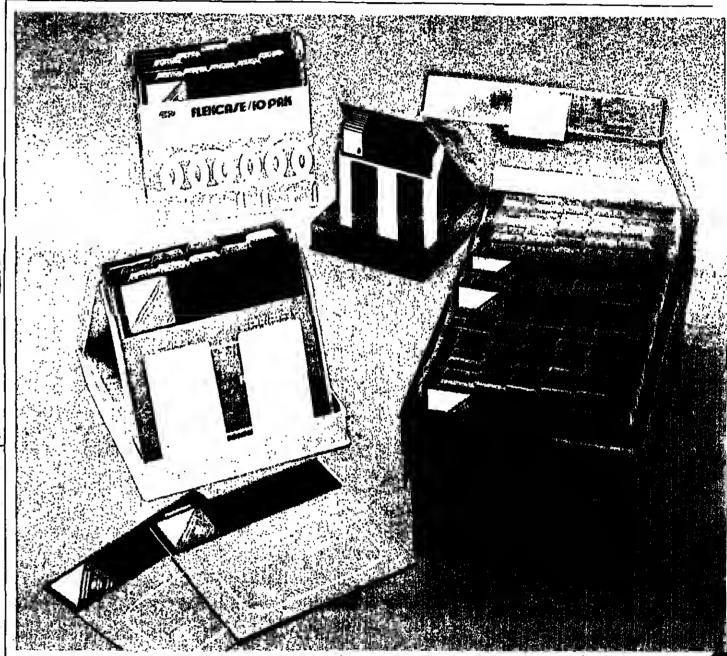
ICL in South Africa user can cuatomise syntax by sidding an unlimited number of

> It has been followed by two new Cullinane products the Universal Communications Fscillty and the DL/1 interface. Cullinane cisims to be the first software firm to provide a facility such as UCF, which is said to allow IDMS-based appli-

cations to run under any teleprocessing monitor without modification. It is said to lower CPU time while giving the user quicker response at the terminal, and ncreese programmar produc-

Cobol-like commands for deta-

base manipulation and terminal operations. The DL/I interface, called Escape, allows transition from DL/I to IDMS environment by translating DL/1 calls into IDMS requests at execution



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IEWDATA 80 REPORTS BY DONALD KENNETT AND RORY JOHNSTON

French innovations lead the way

exhibitors and, when the Canodien participents changed their minde just four weeks before the show and decided they wanted stand, there were none left.

But the French were those in force demonstrating and talking about how they were integrating their Telotel viewdote system in: their netional programme for Telemetique — computing and communications services of oil kinds, "piggybscking" them and making them ell competible with aoch other on fer se possible.

Telewriting could be displayed on Teletal which would be able to

telephone directory will be held on Teleteland Talotel will use the Transpac packet switching nat-work and the optical fibre natwork due to begin tests in Clarritz

Antione is competible with Antiops is competitis with Tolatel and could use Transpace sithough it was better suited to the Didon data distribution not-work consisting of microwave links and disused VHF telsylation chennals. And the Talecom 1 setallite would enter the same scene in 1983.

To carry the massage abroad end eeak colleboration with or-gardections in other countries, the

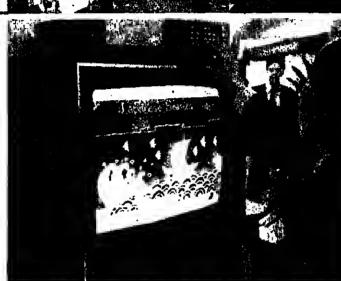
Post Office replies

tion was leunched at the show, headed by Ray Cright who up until last year carried the message shreed for Prestel.

It is in fact the re-naming of the five month old Sopritei organisation, but the new name was thought to be more self-explanatory — international

The Prostel stend (pictured right) at Viswdate 80 proved to be popular and the Poet Offico was able to respond to its critics and its rivals by demonstrating





to Prestel critics 80 by demonstrating the highest

resolution graphics possible on a tographs (CW, March 20). It also demonstrated on intermediate measure, dynamically redefinable character sets, interim measure.

which is used on many personal computers. And with software house CAP-CPP it demonstrated

But Dr Afex Reid, who this month moves up from heing director of Prestel, and Keith Clarke, head of Prestel R&D, bolk still stick to the view that the market is not yet there for these refinements and is best served by the simplest hossible

Meanwhile there have been enough disagreements internationally on detaits within the simplest possible service.
Now a set of compromise

standards is on its way from CCITT according to severel speakers from different countries, it is not reedy yet but is expected in June and should accommodate all existing scr-

too sluw start, but stimulated by

appears to have been made.

developments to head for convergence in about five years, spapers. with conversion to enable interworking between systems as an

tured below, left).

of their systems much progress moting Prestel strongly through advertisements on television at Many people expect future prime times and full-page ad-

This paign, plus the huge stand at Viewdats 80 Isat week, shows Also on display was a coin that the Post Office is pulling out operated Presiel system (pic- sil the publicity stops to promole its Prestel service.



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ABOVE from Relidete comes not a Space Invaders TV game but a coin-operated Prestel set, for installation in hotels, stations and other

RIGHT — displeyed on the French telecommunications stand were five prototype telephone directory terminals. This is the Tallo from CIT Alcetol the Post Office pushing towards

FAR RIGHT — two other contenders for the French PTT's lucretive a live service and other couns. directory terminal contract were from Maire (left) and TRT (right).

Bank sees EFTS application

ELECTRONIC funds transfer using viewdata could be a reelity in the near future, allowing customers online access to stetements and the ability to make rouline payments, all from their

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perimented with the idea.

MATRIX PRINTER

. That is the view of Bob Park of blish their own viewdata netthe Interbank Research Organ work linking their mainframes, isstion, who described to a or the Post Office's Prestel could Viewdets 80 audience how be used as a "window" into the Barcisys Bank had already ex- bank computera. In either case, the customer

Ether the banks could esta-

to cail up statements, and using numerical keypsd he could transfer money between **NOW REDUCED** ions that have already been several systems had been evalu-listed in the sccount, such as the THE WESTREX TX-80 DOT

> cult, es the customer yould have to send corresponding messeges for the PDI concept. both to the vendor and to his Jack Fraser of I ss they are now on Prestal, by

Electronic mell is siso an area transmission methods. of major potentiel for viewdata. ssid Roger Camrass of consultants Buller Cox. Viewdeta sets

Consinunications seld that, officea and are easy to use, Csmrass said, explaining that with the PDI or alpha-geometric these are very important points os electronic mail will be used mainly by middle management. In these we've viewdeta is PDI generation and could soon more suitable than alther Telax be added to the system.

system

THE Shape computer centre operated in Holland by Nato has chosen the picture description instruction display method used in the Canadian Telldon system for its viewds ta communicawould use his home viewds ta set

Peter Drake, who is on secondment to the centre from the Post Office, told delegates at secounts or instruct the bank to the conference section that pay specific sums to organisa-several systems had been evalurates office, building society, or department store Psyment for one-off system had been operationel for purchases would be more diffi-

there was a very targe market Jack Fraser of Belt Canada bank. Park thought these payments would be hetter handled was e necessity for business and claimed that the efficiency of the giving the vendor a credit card PDI method made nversge frama costs tower than with dot

will be conveniently located in although automatic picture method, pattern recognition tschniques had been well proven in the laboroetry with automatic

ur communicating word proces-Bown said the prototype IPS I sors. A store-and-forward terminel had cost \$30,000, but fecility will be essential as well. IPS 2 would cost \$18,000.

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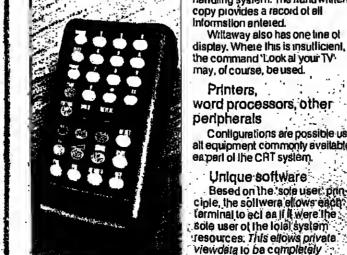
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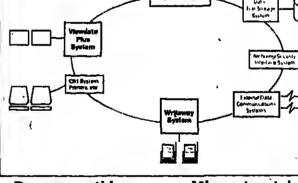


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putting from paper via s fac-

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our is added afterwards on the

At the user end, images can be scrotled or disployed page by

page and images can be modified

by sending new data only to the

parts that are to be changed. The

user terminai has a simple

nunteric keypod for menu selec-

tion or page nddressing. The full complement of 1,000 terminals reached the field at

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year trini which is to be evalu-

ated before a commercial service

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hen television set odapters are

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munications with Nippen

Telephone and Telegraph.
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sub-block matrix of 31 by 17.

Imlle machine

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system

keys on it.

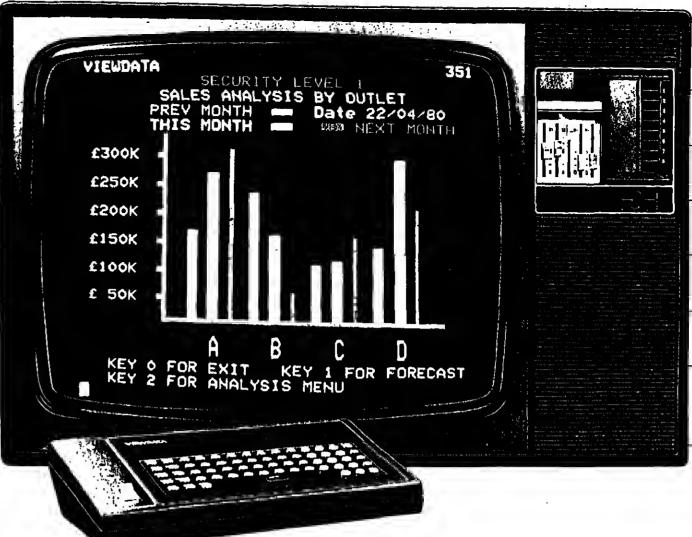
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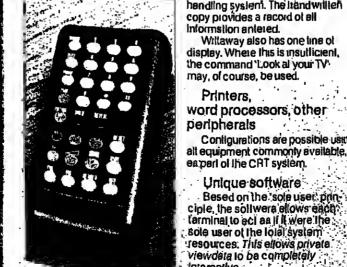
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a control, for instance, give tempernumeric updata.

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numeric keyboalds ellow full alph numeric interactive updata elec-Ironic memos, etc., for senior ste without computer skills. And so on

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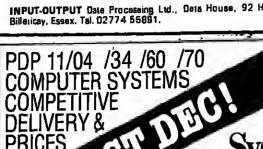
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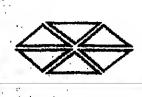
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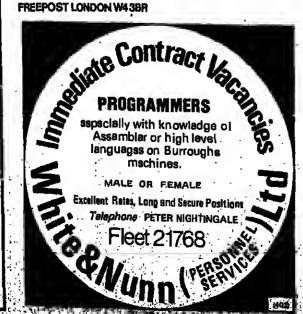
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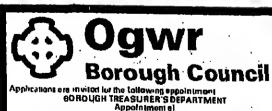
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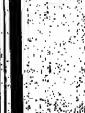
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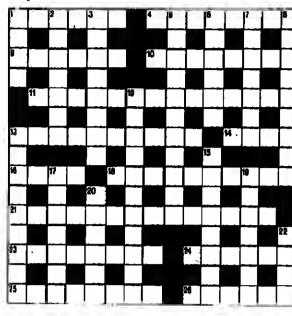


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accept the rules and conditions of the Computer Weekly

one -- seel (7)

fellers (6)

3. Piace where astronauts

buy drinks? Typists use

contentious party

7. It's wrong having to endure endless infile

8. Trees in city's outskirts

Hindu god, aay (9)

nephew, for instance.

throwing cap away (7)

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tion of great pain (7)

1. Tuugh gets to steal from 1. The hard stuff makes posh thoroughfara (6) 4. English parliaments 2. Type of ox, light yellow

9. Long garnient with which one has feet protected in the vessel (6) **IO. Flower vou've to niant**

around the North before the fall (8) Intend, in craze for a - 6. Hot water jugs for that song, to show real

evidence of auccess fellow in the team is to

14. Not so much exercise on going out (4)
16. Type of pistol used in 12. Excitedly agog, we run RA type of railway (6-5)
13. Plunder obtained by

15. Lawless one, the reverse

lied with grapes (14)

23. More liable to ring us, 19. High spirits shown by the race, one that be- 20. Fur, to warm and dry

25. Made beloved stop get-ting attention standing 22. The way ahead of you is by the editor (8) 26. The head takes part in

pupils' concert (6)

2. The competition is open to all readers of Computer Weekly with the exception of the stall of IPC Cusiness Press Ltd, any printers

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